

THE CLAIMS

What is claimed is:

- 5 1. An isolated or synthesized cocoa polypeptide identified by SEQ ID NO:1, SEQ ID NO:2, or a fragment thereof comprising SEQ ID NO:3 or SEQ ID NO:4.
2. The fragment of claim 1, obtained by enzymatic degradation involving one or more of the following enzymes: aspartic endoproteinase, cysteine endoproteinase and carboxypeptidase.
- 10 3. The fragment according to claim 2, wherein the enzyme is derived from cocoa.
4. The polypeptide according to claim 1, which is further reacted with a reducing sugar.
- 15 5. An isolated or synthesized nucleotide sequence encoding the polypeptide of claim 1.
6. A cell containing one or more copies of the nucleotide sequence of claim 5.
7. A vector containing the nucleotide sequence of claim 5.
- 20 8. A cell containing the vector of claim 7.
9. The cell according to claim 6, which is a bacterial cell, a yeast cell, an insect cell, a mammalian cell or a plant cell.
- 25 10. A plant containing the plant cell of claim 9.
11. The plant of claim 10, wherein the plant is a cocoa plant.
- 30 12. A method of producing cocoa or chocolate flavor comprising isolating, synthesising or producing a polypeptide according to claim 1 and reacting the peptide with a reducing sugar.

13. A method of enhancing the cocoa or chocolate flavor of a composition, comprising supplementing the composition with one or more of the peptides of claim 1.
14. A method of producing cocoa or chocolate flavor comprising the steps of isolating,
5 synthesising or producing one or more cocoa polypeptides identified by SEQ ID NO:1 and SEQ ID NO:2 or a fragment thereof comprising SEQ ID NO:3 or SEQ ID NO:4.
15. The method of claim 14, further comprising the step of reacting the peptide with a reducing sugar.
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16. The method of claim 14, wherein the fragment thereof is obtained by subjecting a peptide identified by SEQ ID NO:1 or SEQ ID NO:2 to enzymatic degradation.
17. The method of claim 16, wherein the step of enzymatic degradation involves one or more of
15 the following enzymes: aspartic endoproteinase, cysteine endoproteinase or carboxypeptidase.
18. The method of claim 17, wherein the enzyme is derived from cocoa.
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19. A method of producing cocoa beans with increased cocoa flavor peptides, the method comprising transforming a cocoa cell with one or more of the nucleotide sequences of claim 5, and generating at least one cocoa plant from the transformed cell.
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20. The method of claim 19, wherein the cell comprises at least 40 copies of the nucleotide sequence.